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Nota di contenuto	FM -- Preliminaries -- Part I Theory -- Constructible sets -- Comprehensive Gröbner Systems and Bases -- I-regular functions on a locally closed set -- The Canonical Gröbner Cover -- Part II Applications -- Automatic Deduction of Geometric Theorems -- Geometric Loci -- Geometric Envelopes -- The BUILD TREE Algorithm.- Bibliography -- Index.
Sommario/riassunto	This book is divided into two parts, one theoretical and one focusing on applications, and offers a complete description of the Canonical Gröbner Cover, the most accurate algebraic method for discussing parametric polynomial systems. It also includes applications to the Automatic Deduction of Geometric Theorems, Loci Computation and Envelopes. The theoretical part is a self-contained exposition on the theory of Parametric Gröbner Systems and Bases. It begins with Weispfenning's introduction of Comprehensive Gröbner Systems (CGS)

in 1992, and provides a complete description of the Gröbner Cover (GC), which includes a canonical discussion of a set of parametric polynomial equations developed by Michael Wibmer and the author. In turn, the application part selects three problems for which the Gröbner Cover offers valuable new perspectives. The automatic deduction of geometric theorems (ADGT) becomes fully automatic and straightforward using GC, representing a major improvement on all previous methods. In terms of loci and envelope computation, GC makes it possible to introduce a taxonomy of the components and automatically compute it. The book also generalizes the definition of the envelope of a family of hypersurfaces, and provides algorithms for its computation, as well as for discussing how to determine the real envelope. All the algorithms described here have also been included in the software library "grobcov.lib" implemented in Singular by the author, and serve as a User Manual for it.